

Rice weevil (*Sitophilus oryzae*)

Biology

- Rice weevil is easily confused with maize weevil.
- The adults are round with long snout, can fly and survive for 2 years.
- The body colour is brown/black, with four orange/red spots arranged in a cross on the wing.
- Females lay 2-6 eggs per day and up to 300 over their life time.
- The female uses strong mandibles to chew holes into grain kernel and deposits eggs.
- The larva develops within the grain, hollowing it while feeding.
- The pest is dispatched through fruit, seed and cuttings containing larvae, pupae or adult.

Geographical Distribution

- In Kenya it can be found in (Ahero, Bunyala, Kirinyaga, Kisumu, Kilifi, and Kwale counties), Tanzania (Morogoro, Kilimanjaro, Arusha, Mbeya, Moshi) and Uganda (lake Kioga, Buguri, butalenja and lira districts).



Fig 1. Rice weevil adult
Source: pestwiki.com



Fig 2. Larva & adult
Source:
pestwiki.com



Fig 3. Weevil damage on rice milled grain
Source: pestwiki.com

Damage on rice crop

- Rice grains have holes with irregular edges.
- Disturb stored grains have weevils migrating upwards from them.
- Infested seeds have reduced germination ability.
- Rice with weevil damage are of poor quality.
- 10-100% yield loss if not controlled.

Management Strategies

1. Cultural methods

- Plant late and harvest early to reducing pre-harvest losses caused by the grain moth.
- Store properly dried, non-infested grains (at 12% moisture content).
- Remove previous years grains, debris, contaminants and thoroughly clean the storage facilities.
- Use sticky yellow traps near the bag, hot water, or freeze rice for 1 week.
- Inspect all grains and storage containers thoroughly before use.
- Never mix infested with non-infested grains.

Management Strategies

- Store grains in tightly sealed glass, metal, sturdy plastic containers, or hermetic bags (not normal bags).
- Kill weevil by freezing infected rice at -18 °C for 3 days or by heating to 60 °C for a 15min.

2. Biological control

- Place black pepper around the grain stores to repel weevils.
- Use plant extracts such as neem, pyrethrum and castor seed.

3. Chemical control

- Dust grains with malathion 2% + Pyrethrins 0.2% (like Nova Super Blue cross dust, Pydust, Super Malper Dust dust) at 1kg per tonne (3-6 months under ideal (cool, dry) conditions).
- Dust with Actelic gold dust (Pirimiphos Methyl: 7mg/Kg; Thiamethoxam: 2mg/Kg).
- Fumigate stores with phosphine to eliminate existing infestation.